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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/772,516

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Trent A. Shidaker

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HUNTSMAN INTERNATIONAL LLC  
LEGAL DEPARTMENT  
10003 WOODLOCH FOREST DRIVE  
THE WOODLANDS, TX 77380

EXAMINER

COONEY, JOHN M

ART UNIT

PAPER NUMBER

1796

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/772,516	<b>Applicant(s)</b> SHIDAKER ET AL.	
	<b>Examiner</b> John Cooney	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-16, 19 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10-16, 19 and 21-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4-8-09 has been entered.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 26 & 27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants' recitations of exclusion set forth in claim 26 sets forth a limitation that lack support in applicants' originally filed supporting disclosure such that it is not evident that applicants, at the time the application was filed, had possession of the invention as is now claimed. It has been held that the express

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exclusion of certain elements implies the permissible inclusion of all other elements not so expressly excluded which clearly demonstrates that the introduction of negative limitations not explicitly provided for by the specification as originally filed do, in fact, introduce new concepts and are therefore new matter. *Ex parte Grasselli* 231 USPQ 394.

This is a new matter rejection.

Claim 27 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants' limitation of the claim to "at least 80% of the foaming agent is a carboxylic acid" is a limitation that lacks support in applicants' originally filed supporting disclosure such that it is evident that applicants, at the time the application was filed, had possession of the invention as is now claimed.

Applicants' originally filed supporting disclosure lacks support for the range and endpoint now claimed by claim 27.

This is a new matter rejection.

Claim 25 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which

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was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants' limitation of the claim to "an unsaturated fatty carboxylic acid" without the limitation that it contains "at least one unit of ethylenic unsaturation per molecule, on a number average basis" lacks support in applicants' originally filed supporting disclosure such that it is evident that applicants, at the time the application was filed, had possession of the invention as is now claimed.

Applicants' originally filed supporting disclosure lacks support for the range of materials now claimed by claim 25.

This is a new matter rejection.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 26-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' recitations of claim 26 are confusing as to intent because it can not be definitively determined what materials are intended to be included or excluded by the claims specific exclusion of tertiary amine when the claim from which it depends particularly requires a tertiary amine group, and, hence, a tertiary amine.

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' recitations of claim 25 are confusing as to intent because it can not be definitively determined what materials other than unsaturated fatty acids containing at least one unit of ethylenic unsaturation per molecule, on a number average basis, are intended to be included by the claim.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants' recitation of ranges of break strain ratio values in claim 22 are confusing as to intent because the conditions under which the values are determined have not been identified in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 10-16, 19 and 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bodnar et al.(5,143,945), alone, or in view of Parrish et al.(5,037,860).

Bodnar et al. discloses reaction systems useful in molded foam applications prepared from aromatic isocyanate materials, polyols in amounts and of weights and functionalities inclusive of those claimed and being derived from the isocyanate reactant compounds defined by the claims, water and carboxylic acids as blowing agents, and other additives, auxiliaries, and reactants(see column 3 lines 14-37 & 60 et seq., column 4 lines 1-28 & 66 et seq., column 5 lines 39-45 & 66 et seq., column 6 lines 1-4 & 43-49, and the entire document).

Bodnar et al. differs from applicants' claims in that it is not particularly limited to applicants' recited selections of active hydrogen containing derived polyols of the equivalent weights as claimed. However, Bodnar et al. is clear in the particular suitability of the members, ammonia, ethylene diamine, trimethylol propane, and ethylene glycol, in forming the polyols of their invention, and the suitability of the molecular weights and functionalities necessary to meet applicants' claimed hydroxyl equivalent values in forming the polyols of their invention. Accordingly, it would have been obvious for one having ordinary skill in the art to have employed the suitably employable active hydrogen containing materials disclosed by Bodnar et al. within the preparations of Bodnar et al's own teaching for the purpose of providing their isocyanate reactive urethane forming effect in order to arrive at the products and processes of applicants' claims with the expectation of success in the absence of a showing of new

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or unexpected results. Motivation to operate within the teachings of Bodnar et al. for the purpose of imparting the indicated result intended effect is held to be properly established. It has long been held that where the general conditions of the claims are disclosed in the prior art, discovering the optimal or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233; *In re Reese* 129 USPQ 402 . Further, a prima facie case of obviousness has been held to exist where the proportions of a reference are close enough to those of the claims to lead to an expectation of the same properties. *Titanium Metals v Banner* 227 USPQ 773. **(see also MPEP 2144.05 I)** Similarly, it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272,205 USPQ 215 (CCPA 1980).

Bodnar et al. further differs from claims of applicants' invention in that it does not require the Index values of applicants' claims. However, Bodnar et al. (see column 8 lines 11-31) does indicate controls for operation of their invention in overlap with the ranges of values of applicants' claims. Bodnar et al. initially set forth requirement is that "isocyanate component must be employed in excess" (i.e. Index values of greater than 1). Accordingly, it would have been obvious for one having ordinary skill in the art to have operated within the fully disclosed mixing ratios provided for by the teachings of Bodnar et al. in order to arrive at the mixing ratios provided for by applicants' claims as motivated by the desire to control isocyanurate linkage contents in the preparations formed in Bodnar et al. in order to arrive at the products and processes of applicants' claims with the expectation of success in the absence of a showing of new or



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unexpected results. Further, even if Bodnar et al. is seen to be limited by the disclosure of column 8 lines 28-31 examiner holds that a prima facie case of obviousness has been held to exist where the proportions of a reference are close enough to those of the claims to lead to an expectation of the same properties. *Titanium Metals v Banner* 227 USPQ 773. **(see also MPEP 2144.05 I).**

Bodnar et al. differs from claims of applicants' invention in that it does not require propylene oxide capping of its polyols and the consequential secondary hydroxyl group formation in the polyols of their preparations. However, Parrish et al. (column 3 line 57 – column 4 line 19) discloses variation in the selection of alkylene oxide group termination and, accordingly, the type of resultant hydroxyl functionality to be a well known variable in the art for purposes of forming various foamed articles, controlling reactivity, and varying production cost. Accordingly, it would have been obvious for one having ordinary skill in the art to have varied the arrangement of alkylene oxides in forming the polyols of Bodnar et al. in the manner provided by Parrish et al. for the purpose of modifying and varying reactant reactivity effects and other property controls in order to arrive at the products and processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

As to claim 22, the range of yield to strain ratio values of this claim are seen to be associated with flexibility properties of the products realized. Further, the relevance of this claim recitation as a meaningful claim limitation has not been established.

Control of flexibility is a property variable associated with control of NCO index values with lower indexes and reduced trimerization having the expected effect of

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reduced rigidity. In weighing the evidence of expected results with unexpected results associated with the full teachings of the prior art, it is held that distinction based on this claim property is not evident.

Distinction over Bodnar et al. is not established in the recitations of the claim pertaining to the formation of unreinforced molded foam, nor do the claims exclude the operation of reinforcing the foam.

As to differences based on the specific gravity/density values of applicants' claims, if required by the claims or afforded the value of a limitation based on the current claim language. Bodnar et al. discloses control of the densities within its teaching (see, again, the entire document) for the purpose of controlling the mass and physical effects of the products obtained. Accordingly, it would have been obvious for one having ordinary skill in the art to have controlled the specific gravity/density controlling effects within the teachings of Bodnar et al. within the teachings of Bodnar et al. for the purpose of controlling the resulting mass and physical effects of products realized in order to arrive at the products and processes of applicants' claims with the expectation of success in the absence of a showing of new or unexpected results.

Applicants' latest arguments have been considered. However, rejection is maintained for the reasons set forth above.

The following previous arguments are maintained:

Though examiner does indicate differences between applicants' claims and the teachings of Bodnar et al., these deficiencies are remedied as indicated in the rejection above, and examiner maintains proper motivation to make the changes indicated in the rejection is set forth in the rejection.

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Applicants' presented disclosures do not negate what is taught or fairly suggested by the teachings of the cited prior art. Bodnar et al. is directed towards polyurethane-polyisocyanurate foams and provides guidance for control of the indexes in amounts in excess of 1 for the purpose of controlling the urethane and isocyanurate formation effects in the products realized. The cited reference identified in applicants' reply does not negate the teachings provided for by the full teaching of Bodnar et al.

Examiner maintains that exclusion of the elements as indicated within the rejection above would have been within the purview of the ordinary practitioner in the art for the reasons indicated in the rejection above. If economic and ecological concerns outweighed the desire for benefits to thermal conductivities of articles realized, then one would have been prima facie motivated to exclude these additional blowing agents from the preparations provided for by Bodnar et al.

Selection of the polyols from within the teachings of Bodnar et al. in order to arrive at the polyol selections of applicants' claims, as indicated in the rejection above, is maintained to be selectivity within the purview of the ordinary practitioner in the art.

Distinction based on the break to strain values of applicants' new claim 22 is maintained to be not made evident by the current evidence of record, and applicants have not factually established this to be a feature of applicants' invention that is not within the controls provided for by the full teachings of Bodnar et al.

Bodnar et al. particularly recites amines, which form polyols having at least on aliphatic tertiary amine group upon work-up with alkylene oxides, to be acceptable starters used in forming the polyols used in their preparations. The full teachings of Bodnar et al. is not deficient in its fair suggestion of this claim feature, and distinction in the patentable sense based on this claim feature is not seen.

As to the ranges of molecular weights of applicants' claims, it is held that Bodnar et al.'s most general guidance (column 6 lines 1-4) for their polyols can not be ignored. And, though the paragraphs to follow indicate the lower limit of 225 to be "unusually low" for more conventional polymer polyols, followed by a more preferred offering of ranges of molecular weight values, its most generalized disclosure of suitable ranges of molecular weight values still are part of Bodnar et al.'s full teachings and fair suggestions. Further, all disclosures of the prior art, including unpreferred or auxiliary embodiments, must be considered in determining obviousness. *In re Mills*, 176 USPQ; *In re Lamberti*, 192 USPQ 278; *In re Boe*, 148 USPQ 507. Molecular weights in the polyols have well studied effects in article resulting therefrom, including features such as strength, hardness, and rigidity. Absent a showing of new or unexpected results attributable to the ranges of molecular weight values of applicants' claims. Distinction in the patentable sense based on this claim feature is not seen.

Applicants' fail to factually demonstrate showings of new or unexpected results associated with differences in the claims. Additionally, showings would need to be commensurate in scope with the claims. Distinction over Bodnar et al. is not evident

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based on differences between the preferred forms of their disclosure and the forms defined by the instant claims. It is maintained that differences and deficiencies are properly addressed in the grounds of rejection above, and they have not been refuted by applicants' comments on reply.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kotschwar, Hager & Baskent et al. are cited for their relevant disclosures of polyol manipulations known to the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Cooney whose telephone number is 571-272-1070. The examiner can normally be reached on M-F from 9 to 6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/John Cooney/

Primary Examiner, Art Unit 1796